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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,248	07/11/2003	Richard Vicari	C-7218	4609

7590

03/01/2004

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EXAMINER

CHEUNG, WILLIAM K

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/618,248

Applicant(s)

VICARI, RICHARD

Examiner

William K Cheung

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-19 is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0711.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tohei Moritani et al. (JP 62-33241) (English Translation).

*The reaction of claim 20 relates to a **continuous process for making a vinyl acetate/acrylamido copolymer** comprising:*

Art Unit: 1713

*(a) continuously supplying a reaction mixture including vinyl acetate and a more reactive acrylamido comonomer to a reaction zone' wherein the vinyl acetate and acrylamido comonomer are at least partially consumed to form an intermediate reaction mixture;*

*(b) continuously supplying to the intermediate reaction mixture a stream enriched with respect to the more reactive acrylamido comonomer and copolymerizing the additional acrylamido comonomer with the intermediate reaction mixture to form a vinyl acetate/acrylamido copolymer product; and*

*(c) continuously recovering the vinyl acetate/acrylamido copolymer product.*

Tohei Moritani et al. (English translation, page 2, claims 1-4) discloses a method for the manufacture of novel polyvinyl alcohol copolymers characterized in that a polyester and a polymerizable monomer as indicated by formula (1) below are copolymerized in the presence of an alcohol using a radical polymerization initiator, after which an alkali or acid catalyst. Tohei Moritani et al. (English translation, page 8, Application Example 1 to page 11, first paragraph), disclose the process parameters required for the process.

The difference between the invention of claim 20 and Tohei Moritani et al. is that Tohei Moritani et al. are silent on a continuous process pertaining to the disclosed polymerization process.

Art Unit: 1713

However, Tohei Moritani et al. (English translation, page 6, second paragraph) clearly teach that the disclosed process can be conducted by batch-type or by continuous-type processes. Therefore, motivated by the expectation of success of developing the process of Tohei Moritani et al., it would have been obvious to one of ordinary skill in art to use the continuous process teaching of Tohei Moritani et al. to obtain the invention of claim 20. Further, applicants must recognize that it is also considered obvious to convert an existing batch type process into a continuous process. In re Dilnot, 319 F.2d 188, 138 USPQ 248 (CCPA 1963) (Claim directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art.).

### ***Allowances***

3. Claims 1-19 are allowed.

4. The following is an examiner's statement of reasons for allowance:

As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including

Art Unit: 1713

the closest prior art of Tohei Moritani et al. (JP 62-33241) to render the present invention anticipated or obvious to one of ordinary skill in the art.

*The invention of claims 1-19 relates to a **process for the production of a copolymer of vinyl alcohol (VOH) and 2-acrylamido-2-methyl propane sulfonic acid or a salt of such acid (AMPS) by steps including continuously feeding with agitation, vinyl acetate (VAM) and AMPS as comonomers, a free radical yielding polymerization initiator, and a solvent for said comonomers, initiator, and copolymer resulting from the copolymerization of said comonomers, maintaining the resulting reaction mass in said first reaction zone under polymerization conditions for a residence time sufficient for a major proportion of AMPS fed to said first reaction zone to polymerize, continuously feeding reaction mass from said first reaction zone with an additional supply of AMPS to a second reaction zone, maintaining the reaction mass in the second reaction zone for a residence time sufficient to polymerize a major proportion of the AMPS added to the second reaction zone, continuously withdrawing reaction mass from the second reaction zone, separating copolymer of VAM and AMPS from the latter reaction mass, and saponifying by hydrolysis and/or alcoholysis a major proportion of the acetate groups in said copolymer to form a copolymer of VOH and AMPS.***

Art Unit: 1713

JP 62-33241 discloses a method for the manufacture of novel polyvinyl alcohol copolymers characterized in that a polyester and a polymerizable monomer as indicated by formula (1) below are copolymerized in the presence of an alcohol using a radical polymerization initiator, after which an alkali or acid catalyst. However, JP 62-33241 is silent on a process which involves two reaction zone. Therefore, it would not be apparent to one of ordinary skill in art to use the process teachings in JP 62-33241 to obtain the invention of claims 1-19. The invention of claims 1-19 is allowed.

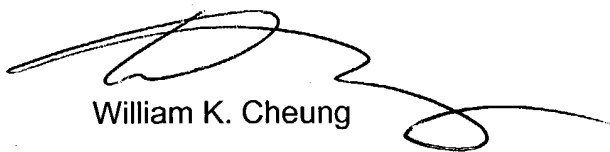
### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5885.

Art Unit: 1713

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1300.

A handwritten signature in black ink, appearing to read 'William K. Cheung', with a large, stylized flourish extending to the right.

William K. Cheung

Patent Examiner

February 11, 2004